Department of Energy
Ohio Field Office
Fernald Environmental Management Project
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NOV 15 2002

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0094-03

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF RESPONSES TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND OHIO ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE 2001 SITE ENVIRONMENTAL REPORT

This letter transmits the subject comment responses to United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (OEPA). According to existing agreements, responses to agency comments on Integrated Environmental Monitoring Plan (IEMP) related documents are included with the subsequent IEMP report or plan submittal. However, the subject responses to comments were not included in the most recent IEMP document transmittal to the USEPA and OEPA and therefore, are being submitted separately at this time.

If you have any questions or comments pertaining to these comment responses, please contact Kathleen Nickel at (513) 648-3166.

Sincerely,

FEMP:Nickel

Johnny W. Reising
Fernald Remedial Action
Project Manager

Enclosure: As Stated

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cc w/enclosure:
T. Schneider, OEPA-Dayton (three copies of enclosure)
G. Jablonowski, USEPA-V, SRF-5J
M. Murphy, USEPA-V, AE-17J
F. Bell, ATSDR
M. Cullerton, Tetra Tech
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:
R. Greenberg, EM-31/CLOV
N. Hallein, EM-31/CLOV
A. Tanner, OH/FEMP
D. Brettschneider, Fluor Fernald, Inc./MS52-5
D. Carr, Fluor Fernald, Inc./MS2
M. Frank, Fluor Fernald, Inc./MS90
T. Hagen, Fluor Fernald, Inc./MS9
W. Hertel, Fluor Fernald, Inc./MS52-5
S. Hinnefeld, Fluor Fernald, Inc./MS52-5
M. Jewett, Fluor Fernald, Inc./MS52-5
T. Poff, Fluor Fernald, Inc./MS65-2
C. Tabor, Fluor Fernald, Inc./MS90
ECDC, Fluor Fernald, Inc./MS52-7

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RESPONSES TO U.S. EPA AND OEPA TECHNICAL REVIEW COMMENTS ON THE 2001 SITE ENVIRONMENTAL REPORT

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

SEPTEMBER 2002

U.S. DEPARTMENT OF ENERGY

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RESPONSES TO U.S. EPA TECHNICAL REVIEW COMMENTS ON THE 2001 SITE ENVIRONMENTAL REPORT

GENERAL COMMENTS

1. Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Pg #: NA Line #: NA Code: C
Original Comment #: 1
Comment: The document contains undefined quantitative terms such as "well under," "well over," "significant," and "insignificant." The text should be revised to refer to concentrations and their relation to regulatory limits, or further explain the terms meanings.
Response: Future Site Environmental Reports (SERs) will minimize the use of these terms, particularly when used in the context of comparing monitoring data results to regulatory limits. When these terms are appropriate in this context, a numerical comparison to the regulatory limit and the subject monitoring results will also be included.
Action: As stated in the response.

SPECIFIC COMMENTS

2. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3.3.1.1 Pg #: 50 Line #: NA Code: C
Original Specific Comment #: 1
Comment: Figure 3-7 and the associated text indicate that net uranium recovery from the Great Miami Aquifer has been increasing steadily over the last 4 years. However, graphical representations of data from individual recovery wells provided in the appendix indicate that in most cases, uranium recovery at individual well locations has been decreasing over time. Typically, groundwater recovery projects result in a decrease of contaminant recovery over time as illustrated by the individual well data. The text does not discuss apparent causes for the increase. For example, have recovery points been continuously added over the period? The text should be revised to briefly discuss the reasons or any analyses conducted to determine the reasons for the increase.
Response: Section 3 is intended to be a high level summary of the groundwater program. The commentor is referred to Appendix A, Attachments A.1 and A.2 for more details and discussion on the operation of the extraction wells and their associated uranium recovery. To summarize there are several factors contributing to the increasing uranium recovery over the last 4 years. The key factors are:

- The startup of the South Field Module and the South Plume Optimization Wells in the Summer of 1998
- Two new wells coming online in the South Field in 2000
- Increasing the pumping rates of wells located in the more contaminated portions of the plume.

These reasons have been discussed in past annual SERs (Appendix A for the most part).
Action: None required.

3. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3.1.5 Pg #: 53 Line #: NA Code: C
Original Specific Comment #: 2
Comment: The text refers to Figure 3-8 on page 51 and states, "These capture zones indicate that the southern plume is being captured by the existing system and that further movement of the uranium plume to the south of the extraction wells is being prevented." An interpretive

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discussion of the capture zone data in comparison to the various vectors of regional groundwater flow would be helpful.

Response: Section 3 is intended to be a high level summary of the groundwater program. The commentor is referred to Appendix A, Attachment A.3 for more details and discussion on capture zones created by each of the modules.

Action: None required.

4. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.4 Pg #: 76 Line #: NA Code: C
Original Specific Comment #: 3

Comment: The text in paragraph one indicates, "Sediment is collected at strategic locations to ensure that the most recently deposited sediment is collected." The text should clarify how the "Strategic locations" ensure that the most recently deposited sediment is sampled. Also, the text should indicate whether published U.S.EPA or Ohio Environmental Protection Agency (OEPA) sediment sampling protocols were implemented to collect the samples or provide some rationale for the procedure used to select the sampling locations, depths, and methods.

Response: Sediment sample locations are selected each year using the protocol in Section 5.5, "Media-Specific Plan for Sediment Monitoring," of the IEMP (Rev. 2). The sediment sampling requirements are further detailed in the FEMP standard operating procedures and the Sitewide CERCLA Quality Assurance Plan (Rev. 2) both of which are based on USEPA sampling protocols. The sampling methods and location selection strategy are described for each IEMP sample medium within the respective "Media-Specific Plan" subsections of the IEMP.

Action: None required.

5. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.7 Pg #: 97 Line #: NA Code: C
Original Specific Comment #: 4

Comment: Paragraph four indicates that particulate matter emissions were "well below the allowable limit of 6.3 tons per year calculated from information in the permits issued by OEPA." The text should clarify the method used to calculate the allowable limit and the rationale for the selection of the method.

Response: The allowable limit for particulate matter is based on information contained in the "Permits To Install" 14-3863 (dated Sept. 27, 1995) and 14-4253 (dated Mar. 5, 1997). The allowable limit is the sum of particulate emissions from each boiler assuming continuous operation for a full year at the rated capacity. Particulate limits for each boiler were calculated by multiplying EPA-approved emission estimates (AP-42) by the boilers' ratings at full load with emission controls in place (pounds of particulate/MBtu-hr) by 5,280 hrs/yr (continuous operation). The rationale for the selection of the method is that it provides the upper bound for particulate emissions assuming continuous operation of all boilers. The particulate emissions reported in the 2001 SER are below the allowable limit because the boilers were not operated at 100% capacity. In future annual reports, DOE will provide information that explains the method and rationale used to determine annual limits for particulate emissions.

Action: A description of the method and rationale used to determine annual limits for particulate emissions will be included in next year's SER.

6. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.5 Pg #: 111 Line #: NA Code: C
Original Specific Comment #: 5

Comment: The text indicates that Fort Ancient Village was "impacted by cleanup efforts at the site." The text should discuss the nature and extent of the impact to the Village.

Response: In future SERs, all discussions of Cultural Resource discoveries will include the nature and extent of impacts to the resources. When possible, information will be given on primary impacts and secondary impacts (if known). An evaluation of findings including the significance of each discovery, in terms of its scientific (archaeological), historical, and / or cultural value will be given.

Action: As stated in the response.

7. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.1 Pg #: A.1-3 Line #: 24 Code: C
Original Comment #: 1

Comment: The text indicates that there was an "up, significant" trend for potassium concentrations in Monitoring Well 2625 for 2001. This well, however, has not been sampled since May 2000. No statements regarding the 2001 trend in potassium concentrations at this well, therefore, are appropriate.

Response: DOE agrees that a 2001 trend statement concerning potassium concentration at Monitoring Well 2625 was not appropriate. As soon as water levels in this well rise enough to enable sampling, trending can continue.

Action: Resume trending of data from Monitoring Well 2625 after additional sample results become available.

8. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.1 Pg #: A.1-4 Line #: 21 Code: C
Original Comment #: 2

Comment: The trace levels of volatile organic compounds observed in Monitoring Wells 2128, 2898, and 2899 are suggested to be laboratory contaminants. Were these compounds detected in the associated laboratory quality control samples? Ethylbenzene is not a typical laboratory contaminant but can be introduced to field samples through exposure to ambient atmospheric VOC concentrations present during sample collection (e.g., from generator exhaust). Were these compounds detected in the associated field or trip blanks?

Response: Some of these compounds were detected in the associated Field Blanks and Rinsate samples. The table below provides a summary of the results. The subject VOCs were not detected in the laboratory quality control samples, so laboratory contamination does not appear to be a cause. Continued sampling will provide additional insight into why these near method detection limit concentrations continue to be detected.

Well	Constituent	Sampling Date	Result (µg/L)	FB Result (µg/L)	Rins. Result (µg/L)	TB Result (µg/L)	Lab QC Result (µg/L)
2128	Ethylbenzene	07-31-2001	0.1	-	-	-	-
2128	Toluene	11-13-2001	0.2	0.1	0.1	-	-
2128	Xylenes, Total	11-13-2001	0.1	0.2	0.2	-	-
2898	Toluene	02-06-2001	0.2	-	-	-	-
2898	Toluene	11-13-2001	0.1	0.1	0.1	-	-
2899	Toluene	02-06-2001	0.1	-	-	-	-

Action: As stated in the response.

9 Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.2 Pg #: A.2-3 Line #: 12 Code: C
Original Comment #: 3

Comment: As noted in the South Field Phase II Design Report recently prepared by DOE (DOE, 2002), the lower observed total uranium concentrations in the aquifer are also likely related to the low water table conditions observed in 2001.

Response: DOE agrees with this observation. Lower water levels in the area could also be contributing to the lower observed total uranium concentrations.

Action: None required.

10. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.2 Pg #: A.2-4 Line #: 24 Code: C
Original Comment #: 4
Comment: Agree, it would seem more meaningful to only trend the concentration data from samples collected since the currently active remedial pumping modules began operation (i.e., fourth quarter, 1998).
Response: Comment acknowledged.
Action: As noted in the text, future trend analysis will focus on the more recent data. DOE suggests that the beginning of the more recent data set be the third quarter of 1998, as that was the quarter when the South Field, Re-Injection and South Plume Optimization Modules began operating.

11. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.3 Pg #: A.3-2 Line #: 4 Code: C
Original Comment #: 5
Comment: Showing the 10-year, uranium-based restoration footprint as calculated for the Baseline Remedial Strategy Report is potentially misleading. The footprint is the calculated capture zone for the baseline remedy consisting of 37 extraction wells and 10 re-injection wells. The baseline remedy will likely never be implemented in its entirety. In addition, the capture zone was determined using a previous site groundwater model based on outdated boundary conditions. As a result, the footprint is not very relevant or meaningful to the actual remediation being performed. The restoration footprint should be revised based on a more realistic estimation of the actual remedy that will be performed. At a minimum, the footprint should be revised using the updated site model.
Response: A new footprint will be prepared as an addendum to the Baseline Remedial Strategy Report using the updated site groundwater model.
Action: As stated in the response.

12. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.3 Pg #: A.3-2 Line #: 9 Code: C
Original Comment #: 6
Comment: The text indicates that although a small portion of the plume perimeter lies outside of the observed capture zone, the entire plume lies within the 10-year, uranium-based footprint and will, therefore, be captured over the course of the remedy. This statement is misleading because the baseline remedy will likely never be implemented in its entirety and because particle tracking analysis of the current remedial pumping scenario as presented in the South Field Phase II Design Report indicate that complete capture will not be achieved. Figure 1 shows particle tracking results for VAM zoom model layer 12. Portions of the eastern flank of the South Plume are not being captured. Similar results were obtained for layers 11, 10, and 9. The particle tracking was performed by releasing particles along the perimeter of the 30 µg/L plume in each layer and tracking their movement given the flow field created by the proposed remedy. Although groundwater level monitoring data generally support capture of the plume and total uranium concentrations measured in the monitoring wells located east of the South Plume eastern boundary remain very low and show no upward trends, the model-derived capture zones do not indicate that complete capture of the plume is occurring for the current pumping scenario as presented in the South Field Phase II Design Report.
Response: This comment is similar to Comment 11. Please refer to the response for Comment 11.
Action: As stated in action to Comment 11.

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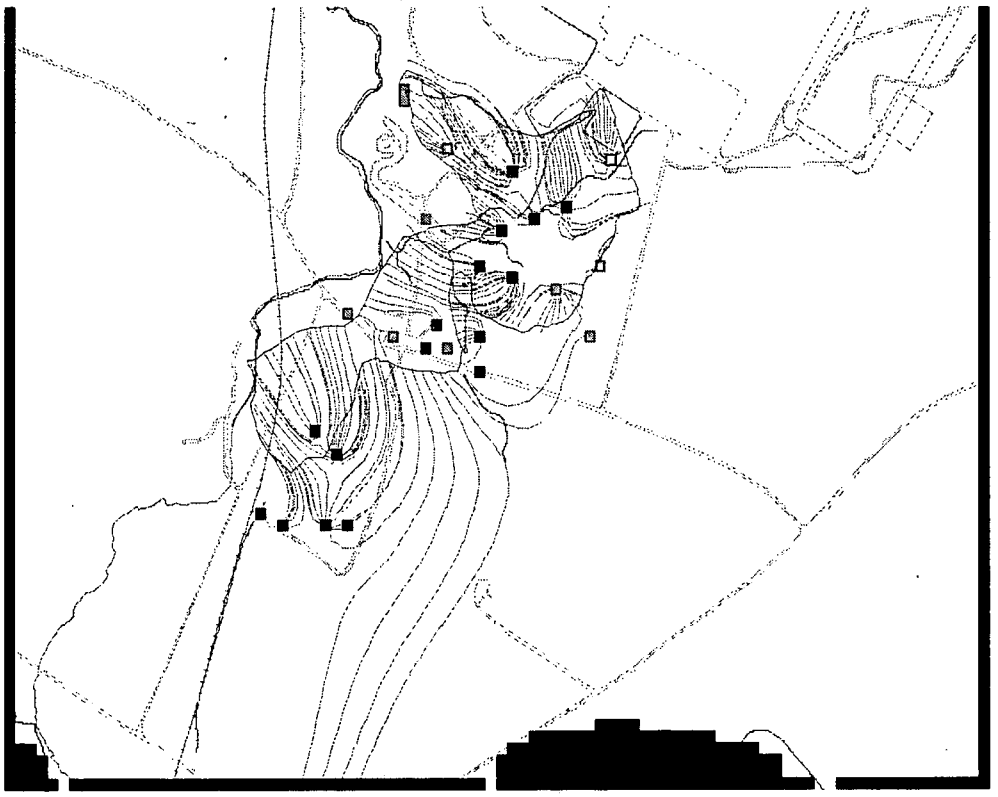

Figure 1. Forward Particle Tracks - VAM Zoomed Model Layer 12

13. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.4 Pg #: A.4-5 Line #: 5 Code: C
Original Comment #: 7
Comment: The list of FRL exceedances for 2000 that were found to be not persistent in 2001 should also include zinc and manganese in Monitoring Well 2430.
Response: Zinc and manganese at Well 2430 were not just FRL exceedances in 2000. They were both declared as being persistent in 2000. This is reported on page A.4-5 of the 2000 Integrated Site Environmental Report.
Action: None required.

14. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.4 Pg #: A.4-5 Line #: 19 Code: C
Original Comment #: 8
Comment: The discussion should note that a correlation may exist between the occurrence of FRL exceedances and sample filtering. For example, zinc in unfiltered samples from Monitoring Well 2430 exceeded the FRL three out of four quarters in 2000. No exceedances occurred in 2001 and all samples were filtered.
Response: DOE agrees that a correlation may exist between the occurrence of FRL exceedances and sample filtering. This possibility will be further explored and reported on in future SERs.
Action: As stated in the response.

15. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 9
Comment: Summing up the monthly flows on Figure A.5-3 indicates a total flow of 1341 gallons for 2001, not 971 gallons as stated in the text.
Response: Agree. During preparation of the 2001 SER a new methodology for calculating LDS volumes was adopted. The old method was based on volumes pumped out of the LDS containment vessels. However, since the accumulation rates were such that a pump out was

not occurring each month, a new method was developed. The new method is based on the actual amount of water that collects in the LDS containment vessels/tanks each month, independent of pump outs. The 971 gallons stated in the text resulted from a combination of the old and new methods (old method through April 2001 and new method for the remainder of the year). The monthly volumes shown in Figure A.5-3 resulted from the new method. However, it should be noted that the volumes reported for March, April, and May are considered suspect due to the transition from the old leachate transmission system to the new leachate transmission system during that period.

Action: Future monthly LDS volumes will be tracked and reported based on the amount of water that collects in the LDS tanks during each month.

16. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 10

Comment: Summing up the monthly flows on Figure A.5-5 indicates a total flow of 1329 that were found to be not persistent in 2001 should also include zinc and manganese in Monitoring Well 2430.

Response: This Comment is similar to comment 19. Please refer to the response and action for Comment 19.

Action: Refer to the action for Comment 19.

17. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.4 Pg #: A.4-5 Line #: 19 Code: C
Original Comment #: 11

Comment: The discussion should note that a correlation may exist between the occurrence of FRL exceedances and sample filtering. For example, zinc in unfiltered samples from Monitoring Well 2430 exceeded the FRL three out of four quarters in 2000. No exceedances occurred in 2001 and all samples were filtered.

Response: This comment is the same as Comment 14. Please refer to the response for Comment 14.

Action: Refer to the action for Comment 14.

18. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 12

Comment: Summing up the monthly flows on Figure A.5-3 indicates a total flow of 1341 gallons for 2001, not 971 gallons as stated in the text.

Response: This is the same comment as Comment 15. Please refer to the response for Comment 15.

Action: Refer to the action for Comment 15.

19. Commenting Organization: Ohio EPA Commentor: HSI GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 13

Comment: Summing up the monthly flows on Figure A.5-5 indicates a total flow of 1329 gallons for 2001, not 1164 gallons as stated in the text. gallons for 2001, not 1164 gallons as stated in the text.

Response: Agree. During preparation of the 2001 SER a new methodology for calculating LDS volumes was adopted. The old method was based on volumes pumped out of the LDS containment vessels. However, since the accumulation rates were such that a pump out was not occurring each month, a new method was developed. The new method is based on the actual amount of water that collects in the LDS containment vessels/tanks each month, independent of pump outs. The 1164 gallons stated in the text resulted from a combination of the old and new methods (old method through April 2001 and new method for the remainder of the year). The monthly volumes shown in Figure A.5-5 resulted from the new method. However, it should be noted that the volumes reported for April and May are considered suspect due to the transition from the old leachate transmission system to the new leachate transmission system during that period.

Action: Future monthly LDS volumes will be tracked and reported based on the amount of water that collects in the LDS tanks during each month.

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RESPONSES TO U.S. EPA AND OEPA TECHNICAL REVIEW COMMENTS ON THE 2001 SITE ENVIRONMENTAL REPORT

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

SEPTEMBER 2002

U.S. DEPARTMENT OF ENERGY

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RESPONSES TO U.S. EPA TECHNICAL REVIEW COMMENTS ON THE 2001 SITE ENVIRONMENTAL REPORT

GENERAL COMMENTS

1. Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Pg #: NA Line #: NA Code: C
Original Comment #: 1
Comment: The document contains undefined quantitative terms such as "well under," "well over," "significant," and "insignificant." The text should be revised to refer to concentrations and their relation to regulatory limits, or further explain the terms meanings.
Response: Future Site Environmental Reports (SERs) will minimize the use of these terms, particularly when used in the context of comparing monitoring data results to regulatory limits. When these terms are appropriate in this context, a numerical comparison to the regulatory limit and the subject monitoring results will also be included.
Action: As stated in the response.

SPECIFIC COMMENTS

2. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3.3.1.1 Pg #: 50 Line #: NA Code: C
Original Specific Comment #: 1
Comment: Figure 3-7 and the associated text indicate that net uranium recovery from the Great Miami Aquifer has been increasing steadily over the last 4 years. However, graphical representations of data from individual recovery wells provided in the appendix indicate that in most cases, uranium recovery at individual well locations has been decreasing over time. Typically, groundwater recovery projects result in a decrease of contaminant recovery over time as illustrated by the individual well data. The text does not discuss apparent causes for the increase. For example, have recovery points been continuously added over the period? The text should be revised to briefly discuss the reasons or any analyses conducted to determine the reasons for the increase.
Response: Section 3 is intended to be a high level summary of the groundwater program. The commentor is referred to Appendix A, Attachments A.1 and A.2 for more details and discussion on the operation of the extraction wells and their associated uranium recovery. To summarize there are several factors contributing to the increasing uranium recovery over the last 4 years. The key factors are:

- The startup of the South Field Module and the South Plume Optimization Wells in the Summer of 1998
- Two new wells coming online in the South Field in 2000
- Increasing the pumping rates of wells located in the more contaminated portions of the plume.

These reasons have been discussed in past annual SERs (Appendix A for the most part).
Action: None required.

3. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.3.1.5 Pg #: 53 Line #: NA Code: C
Original Specific Comment #: 2
Comment: The text refers to Figure 3-8 on page 51 and states, "These capture zones indicate that the southern plume is being captured by the existing system and that further movement of the uranium plume to the south of the extraction wells is being prevented." An interpretive

discussion of the capture zone data in comparison to the various vectors of regional groundwater flow would be helpful.

Response: Section 3 is intended to be a high level summary of the groundwater program. The commentor is referred to Appendix A, Attachment A.3 for more details and discussion on capture zones created by each of the modules.

Action: None required.

4. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.4 Pg #: 76 Line #: NA Code: C
Original Specific Comment #: 3

Comment: The text in paragraph one indicates, "Sediment is collected at strategic locations to ensure that the most recently deposited sediment is collected." The text should clarify how the "Strategic locations" ensure that the most recently deposited sediment is sampled. Also, the text should indicate whether published U.S.EPA or Ohio Environmental Protection Agency (OEPA) sediment sampling protocols were implemented to collect the samples or provide some rationale for the procedure used to select the sampling locations, depths, and methods.

Response: Sediment sample locations are selected each year using the protocol in Section 5.5, "Media-Specific Plan for Sediment Monitoring," of the IEMP (Rev. 2). The sediment sampling requirements are further detailed in the FEMP standard operating procedures and the Sitewide CERCLA Quality Assurance Plan (Rev. 2) both of which are based on USEPA sampling protocols. The sampling methods and location selection strategy are described for each IEMP sample medium within the respective "Media-Specific Plan" subsections of the IEMP.

Action: None required.

5. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.7 Pg #: 97 Line #: NA Code: C
Original Specific Comment #: 4

Comment: Paragraph four indicates that particulate matter emissions were "well below the allowable limit of 6.3 tons per year calculated from information in the permits issued by OEPA." The text should clarify the method used to calculate the allowable limit and the rationale for the selection of the method.

Response: The allowable limit for particulate matter is based on information contained in the "Permits To Install" 14-3863 (dated Sept. 27, 1995) and 14-4253 (dated Mar. 5, 1997). The allowable limit is the sum of particulate emissions from each boiler assuming continuous operation for a full year at the rated capacity. Particulate limits for each boiler were calculated by multiplying EPA-approved emission estimates (AP-42) by the boilers' ratings at full load with emission controls in place (pounds of particulate/MBtu-hr) by 5,280 hrs/yr (continuous operation). The rationale for the selection of the method is that it provides the upper bound for particulate emissions assuming continuous operation of all boilers. The particulate emissions reported in the 2001 SER are below the allowable limit because the boilers were not operated at 100% capacity. In future annual reports, DOE will provide information that explains the method and rationale used to determine annual limits for particulate emissions.

Action: A description of the method and rationale used to determine annual limits for particulate emissions will be included in next year's SER.

6. Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.5 Pg #: 111 Line #: NA Code: C
Original Specific Comment #: 5

Comment: The text indicates that Fort Ancient Village was "impacted by cleanup efforts at the site." The text should discuss the nature and extent of the impact to the Village.

Response: In future SERs, all discussions of Cultural Resource discoveries will include the nature and extent of impacts to the resources. When possible, information will be given on primary impacts and secondary impacts (if known). An evaluation of findings including the significance of each discovery, in terms of its scientific (archaeological), historical, and / or cultural value will be given.

Action: As stated in the response.

7. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.1 Pg #: A.1-3 Line #: 24 Code: C
Original Comment #: 1

Comment: The text indicates that there was an "up, significant" trend for potassium concentrations in Monitoring Well 2625 for 2001. This well, however, has not been sampled since May 2000. No statements regarding the 2001 trend in potassium concentrations at this well, therefore, are appropriate.

Response: DOE agrees that a 2001 trend statement concerning potassium concentration at Monitoring Well 2625 was not appropriate. As soon as water levels in this well rise enough to enable sampling, trending can continue.

Action: Resume trending of data from Monitoring Well 2625 after additional sample results become available.

8. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.1 Pg #: A.1-4 Line #: 21 Code: C
Original Comment #: 2

Comment: The trace levels of volatile organic compounds observed in Monitoring Wells 2128, 2898, and 2899 are suggested to be laboratory contaminants. Were these compounds detected in the associated laboratory quality control samples? Ethylbenzene is not a typical laboratory contaminant but can be introduced to field samples through exposure to ambient atmospheric VOC concentrations present during sample collection (e.g., from generator exhaust). Were these compounds detected in the associated field or trip blanks?

Response: Some of these compounds were detected in the associated Field Blanks and Rinsate samples. The table below provides a summary of the results. The subject VOCs were not detected in the laboratory quality control samples, so laboratory contamination does not appear to be a cause. Continued sampling will provide additional insight into why these near method detection limit concentrations continue to be detected.

Well	Constituent	Sampling Date	Result (µg/L)	FB Result (µg/L)	Rins. Result (µg/L)	TB Result (µg/L)	Lab QC Result (µg/L)
2128	Ethylbenzene	07-31-2001	0.1	-	-	-	-
2128	Toluene	11-13-2001	0.2	0.1	0.1	-	-
2128	Xylenes, Total	11-13-2001	0.1	0.2	0.2	-	-
2898	Toluene	02-06-2001	0.2	-	-	-	-
2898	Toluene	11-13-2001	0.1	0.1	0.1	-	-
2899	Toluene	02-06-2001	0.1	-	-	-	-

Action: As stated in the response.

9 Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.2 Pg #: A.2-3 Line #: 12 Code: C
Original Comment #: 3

Comment: As noted in the South Field Phase II Design Report recently prepared by DOE (DOE, 2002), the lower observed total uranium concentrations in the aquifer are also likely related to the low water table conditions observed in 2001.

Response: DOE agrees with this observation. Lower water levels in the area could also be contributing to the lower observed total uranium concentrations.

Action: None required.

10. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.2 Pg #: A.2-4 Line #: 24 Code: C
Original Comment #: 4
Comment: Agree, it would seem more meaningful to only trend the concentration data from samples collected since the currently active remedial pumping modules began operation (i.e., fourth quarter, 1998).
Response: Comment acknowledged.
Action: As noted in the text, future trend analysis will focus on the more recent data. DOE suggests that the beginning of the more recent data set be the third quarter of 1998, as that was the quarter when the South Field, Re-Injection and South Plume Optimization Modules began operating.

11. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.3 Pg #: A.3-2 Line #: 4 Code: C
Original Comment #: 5
Comment: Showing the 10-year, uranium-based restoration footprint as calculated for the Baseline Remedial Strategy Report is potentially misleading. The footprint is the calculated capture zone for the baseline remedy consisting of 37 extraction wells and 10 re-injection wells. The baseline remedy will likely never be implemented in its entirety. In addition, the capture zone was determined using a previous site groundwater model based on outdated boundary conditions. As a result, the footprint is not very relevant or meaningful to the actual remediation being performed. The restoration footprint should be revised based on a more realistic estimation of the actual remedy that will be performed. At a minimum, the footprint should be revised using the updated site model.
Response: A new footprint will be prepared as an addendum to the Baseline Remedial Strategy Report using the updated site groundwater model.
Action: As stated in the response.

12. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.3 Pg #: A.3-2 Line #: 9 Code: C
Original Comment #: 6
Comment: The text indicates that although a small portion of the plume perimeter lies outside of the observed capture zone, the entire plume lies within the 10-year, uranium-based footprint and will, therefore, be captured over the course of the remedy. This statement is misleading because the baseline remedy will likely never be implemented in its entirety and because particle tracking analysis of the current remedial pumping scenario as presented in the South Field Phase II Design Report indicate that complete capture will not be achieved. Figure 1 shows particle tracking results for VAM zoom model layer 12. Portions of the eastern flank of the South Plume are not being captured. Similar results were obtained for layers 11, 10, and 9. The particle tracking was performed by releasing particles along the perimeter of the 30 µg/L plume in each layer and tracking their movement given the flow field created by the proposed remedy. Although groundwater level monitoring data generally support capture of the plume and total uranium concentrations measured in the monitoring wells located east of the South Plume eastern boundary remain very low and show no upward trends, the model-derived capture zones do not indicate that complete capture of the plume is occurring for the current pumping scenario as presented in the South Field Phase II Design Report.
Response: This comment is similar to Comment 11. Please refer to the response for Comment 11.
Action: As stated in action to Comment 11.

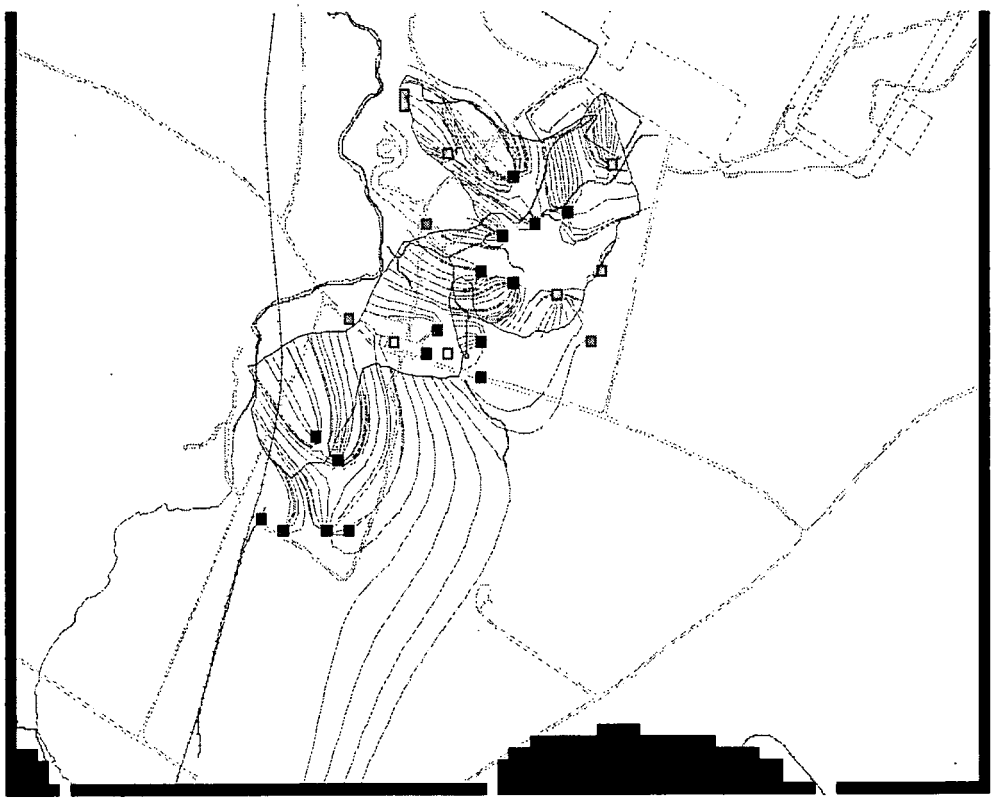

Figure 1. Forward Particle Tracks - VAM Zoomed Model Layer 12

13. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.4 Pg #: A.4-5 Line #: 5 Code: C
Original Comment #: 7
Comment: The list of FRL exceedances for 2000 that were found to be not persistent in 2001 should also include zinc and manganese in Monitoring Well 2430.
Response: Zinc and manganese at Well 2430 were not just FRL exceedances in 2000. They were both declared as being persistent in 2000. This is reported on page A.4-5 of the 2000 Integrated Site Environmental Report.
Action: None required.

14. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.4 Pg #: A.4-5 Line #: 19 Code: C
Original Comment #: 8
Comment: The discussion should note that a correlation may exist between the occurrence of FRL exceedances and sample filtering. For example, zinc in unfiltered samples from Monitoring Well 2430 exceeded the FRL three out of four quarters in 2000. No exceedances occurred in 2001 and all samples were filtered.
Response: DOE agrees that a correlation may exist between the occurrence of FRL exceedances and sample filtering. This possibility will be further explored and reported on in future SERs.
Action: As stated in the response.

15. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 9
Comment: Summing up the monthly flows on Figure A.5-3 indicates a total flow of 1341 gallons for 2001, not 971 gallons as stated in the text.
Response: Agree. During preparation of the 2001 SER a new methodology for calculating LDS volumes was adopted. The old method was based on volumes pumped out of the LDS containment vessels. However, since the accumulation rates were such that a pump out was

not occurring each month, a new method was developed. The new method is based on the actual amount of water that collects in the LDS containment vessels/tanks each month, independent of pump outs. The 971 gallons stated in the text resulted from a combination of the old and new methods (old method through April 2001 and new method for the remainder of the year). The monthly volumes shown in Figure A.5-3 resulted from the new method. However, it should be noted that the volumes reported for March, April, and May are considered suspect due to the transition from the old leachate transmission system to the new leachate transmission system during that period.

Action: Future monthly LDS volumes will be tracked and reported based on the amount of water that collects in the LDS tanks during each month.

16. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 10

Comment: Summing up the monthly flows on Figure A.5-5 indicates a total flow of 1329 that were found to be not persistent in 2001 should also include zinc and manganese in Monitoring Well 2430.

Response: This Comment is similar to comment 19. Please refer to the response and action for Comment 19.

Action: Refer to the action for Comment 19.

17. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.4 Pg #: A.4-5 Line #: 19 Code: C
Original Comment #: 11

Comment: The discussion should note that a correlation may exist between the occurrence of FRL exceedances and sample filtering. For example, zinc in unfiltered samples from Monitoring Well 2430 exceeded the FRL three out of four quarters in 2000. No exceedances occurred in 2001 and all samples were filtered.

Response: This comment is the same as Comment 14. Please refer to the response for Comment 14.

Action: Refer to the action for Comment 14.

18. Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 12

Comment: Summing up the monthly flows on Figure A.5-3 indicates a total flow of 1341 gallons for 2001, not 971 gallons as stated in the text.

Response: This is the same comment as Comment 15. Please refer to the response for Comment 15.

Action: Refer to the action for Comment 15.

19. Commenting Organization: Ohio EPA Commentor: HSI GeoTrans, Inc.
Section #: Attachment A.5 Pg #: A.5-2 Line #: 16 Code: C
Original Comment #: 13

Comment: Summing up the monthly flows on Figure A.5-5 indicates a total flow of 1329 gallons for 2001, not 1164 gallons as stated in the text. gallons for 2001, not 1164 gallons as stated in the text.

Response: Agree. During preparation of the 2001 SER a new methodology for calculating LDS volumes was adopted. The old method was based on volumes pumped out of the LDS containment vessels. However, since the accumulation rates were such that a pump out was not occurring each month, a new method was developed. The new method is based on the actual amount of water that collects in the LDS containment vessels/tanks each month, independent of pump outs. The 1164 gallons stated in the text resulted from a combination of the old and new methods (old method through April 2001 and new method for the remainder of the year). The monthly volumes shown in Figure A.5-5 resulted from the new method. However, it should be noted that the volumes reported for April and May are considered suspect due to the transition from the old leachate transmission system to the new leachate transmission system during that period.

Action: Future monthly LDS volumes will be tracked and reported based on the amount of water that collects in the LDS tanks during each month.